

Name: _____

Date: _____

PCW__09__22 Coordinate transformations v4

Question 1

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 9 \cdot f\left[\frac{x}{4} - 8\right] + 6$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (4(a + 8), 9b + 6)$$

Question 2

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 6 \cdot (f[9(x - 8)] - 3)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a}{9} + 8, 6(b - 3)\right)$$

Question 3

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x-5}{9}\right]}{8} + 6$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(9a + 5, \frac{b}{8} + 6\right)$$

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Question 4

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x}{8} + 7\right]}{6} - 9$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(8(a - 7) , \frac{b}{6} - 9 \right)$$

Question 5

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 2 \cdot f\left[\frac{x + 7}{9}\right] - 4$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (9a - 7 , 2b - 4)$$

Question 6

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 7 \cdot (f[9x - 6] + 5)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a + 6}{9} , 7(b + 5) \right)$$